

### AMENDMENTS IN THE SPECIFICATION

Please amend paragraphs [0007] through [0016] and [0032] through [0040] in the specification as follows:

**[0007]**    The wire rod forming machine ~~according to the invention in Claim 1,~~ achieves the objective [increased production speed], has a constitution in which, in a wire rod forming machine provided with a forming means that shapes into a ring or a coil spring and other ring-shaped wire rod part a wire rod that is fed, and a cut off means to cut off the ring-shaped wire rod part from the wire rod, the cut off means consisting of the provision of a moveable cutting member that moves two-ways between a starting point and an end point aligned in the horizontal direction and a holding sectioning member that is crossed by the moveable cutting member half-way through moving from the starting point to the end point, at the same time, shearing a prescribed location of the wire rod between the respective edges of these moveable cutting member and holding sectioning member and cutting off the ring-shaped wire rod part from the wire rod, the moveable cutting member moving the ring-shaped wire rod part that is cut off to the end point.

**[0008]**    ~~The invention in Claim 2 wherein there is, in~~ In the wire rod forming machine ~~in Claim 1,~~ the holding sectioning member is a fixed punch that is fixed to the main body of the wire rod forming machine, and the moveable cutting member is provided with a punch hole into which the fixed punch protrudes and is a moving die that translates with respect to the main body of the wire rod forming machine.

**[0009]**    ~~The invention in Claim 3 wherein there is, in~~ In the wire rod forming machine ~~of Claims 1 or 2,~~ the constitution is such that a shaft shaped chute is provided,

which is pushed through the inner side of the ring-shaped wire rod part, the ring-shaped wire rod part is formed from the wire rod by winding around the starting end portion of that shaft shaped chute, and, the ring-shaped wire rod part that is cut off from the wire rod is pushed toward the end portion side of the shaft shaped chute by the moveable cutting member.

**[0010]** ~~The invention in Claim 4 wherein there is, in~~ In the wire rod forming machine ~~in Claim 3,~~ a supply route for compressed air is provided to move the ring-shaped wire rod part that is cut off from the wire rod to the end portion side of the shaft shaped chute.

**[0011]** ~~The invention in Claim 5 wherein there is, in~~ In the wire rod forming machine ~~of Claim 4,~~ within the moving die serving as the moveable cutting member, the punch hole that is penetrated by the fixed punch serving as the holding sectioning member serves as the supply route for compressed air.

**[0012]** ~~The invention in Claim 6 where in there is, in~~ In the wire rod forming machine ~~of any of Claims 1 through 5,~~ the constitution such that the shaft shaped chute adopts an arc shape in which the starting end portion is oriented in the horizontal direction and the end portion is oriented in the lower direction. A rotation table is installed in the lower region of the shaft shaped chute, a plurality of shaft shaped magazines are erected oriented in the upper direction from the rotation table, and at the same time, any of the shaft shaped magazines is placed in the line extending the shaft shaped chute according to the rotation phase of the revolution table. A rotation table control means is installed, which rotates the rotation table such that a different shaft shaped magazine is placed in the line extending the shaft shaped chute when the ring-

shaped wire rod parts passing through the shaft shaped chute and collected by the shaft shaped magazine reach a prescribed quantity.

**[0013]** ~~The invention in Claim 7 wherein there is, in~~ In the wire rod forming machine ~~of Claim 6,~~ the tip portion of the shaft shaped magazines formed into a pointed shape, a concave portion is provided on the end face of the end portion of the shaft shaped chute, and a push up means is provided on the rotation table, pushing up the shaft shaped magazines placed on the line extending the shaft shaped chute in the upper direction and plunges the tip portion the shaft shaped magazines into the concave portion of the shaft shaped chute to connect these shaft shaped magazines and the shaft shaped chute.

**[0014]** ~~The invention in Claim 8 wherein there is, in~~ In the wire rod forming machine ~~of any of the Claims 1 through 7,~~ the constitution is such that a pressing roller is provided half-way through the supply route of the wire rod, the wire rod is passed through the pressing roller and rolled from a cross sectional round shape into a belt-shaped wire rod, and the ring-shaped wire rod part is formed by winding in a state where the width face of that belt-shaped wire rod is oriented in the direction of the winding axis.

**[0015]** ~~The invention in Claim 9 wherein there is, in~~ In the wire rod forming machine ~~of Claim 8,~~ the constitution is such that a feeding roller is installed in order to feed the belt-shaped wire rod that is passed through and rolled by the pressing roller to the forming means, the belt-shaped wire rod is relaxed in the lower direction between the feeding roller and the pressing roller, and that relaxing portion is passed between a pair of touch sensors, and based on the detection signal of each touch sensor, the

rotation number of the pressing roller is regulated such that relaxing of the belt-shaped wire rod is constant between these touch sensors.

**[0016]** ~~The invention in Claim 10 wherein there is, in~~ In the wire rod forming machine ~~of any of the Claims 1 through 9,~~ the ring-shaped wire rod part is a ring obtained by winding once the wire rod and whose two extremities are facing with a prescribed gap a translation tool is installed on the forming means, which renders modifiable the curvature of the ring by translating in the direction of the diameter of the ring, the curvature of the portions near both extremities of the wire rod that constitutes the ring is large so that the ring is closer to a true circle when it is deformed by the compression of the diameter via operation of the translation tool.

**[0032]** In the wire rod forming machine ~~in Claim 1,~~ a wire rod that is fed is pushed against a forming means and shaped into a ring or a coil spring and other ring-shaped wire rod part. Then, between the respective edges of the moveable cutting member and the holding sectioning member that constitute the sectioning means, a prescribed location of the wire rod is sheared and a ring-shaped wire rod part is cut off from the wire rod. In so doing, the ring-shaped wire rod part that is cut off moves, pushed by a moveable cutting member, and is forcibly removed from the forming means. In this way, the speed of removal of ring-shaped wire rod parts can be coupled to the acceleration of the manufacturing speed and increased, allowing production speed to be improved compared to that of the prior art.

**[0033]** In addition, as a concrete constitution of the cut off means, the constitution may be such that the wire rod is sectioned between a fixed punch and a moving die (~~invention in Claim 2~~).

**[0034]** In the wire rod- forming machine ~~in Claim 3~~, the ring-shaped wire rod part that is cut off from the wire rod is pushed by a moveable cutting member and moves to the end portion side of a shaft shaped chute. In this way, the ring-shaped wire rod part is collected at the end portion of the shaft shaped chute, and transport to the next process becomes easy.

**[0035]** In the wire rod- forming machine ~~in Claim 4~~, the ring that is cut off from the wire rod-shaped wire rod parts is pushed by compressed air, removed smoothly from the forming means and collected at the end portion of the shaft shaped chute. Here, if, within the moving die, the punch hole into which the fixed punch penetrates serves also as a route for supplying compressed air, a constitution can be achieved, which is more compact than in a situation where a supply route is installed separately (~~invention of Claim 5~~).

**[0036]** In the wire rod- forming machine ~~in Claim 6~~, ring-shaped wire rod parts pass through a shaft shaped chute shaft and are collected by a shaped magazine. Then, when a prescribed quantity of ring-shaped wire rod parts, collected by the shaft shaped magazine, is reached, a rotation table rotates and a different shaft shaped magazine is placed in the line extending from the shaft shaped chute, such that ring-shaped wire rod parts are collected by that shaft shaped magazine. In this way, a prescribed quantity of ring-shaped wire rod parts can be collected by a plurality of shaft shaped magazines.

**[0037]** In the wire rod- forming machine in ~~Claim 7~~, a pointed tip portion of a shaft shaped magazine plunges into the concave portion the end portion the shaft shaped chute, to couple the shaft shaped magazine and the shaft shaped chute, allowing transfer of the ring-shaped wire rod parts from the shaft shaped chute to the shaft shaped magazines to be performed smoothly.

**[0038]** With a pressing roller, as in the wire rod-forming machine in ~~Claim 8~~, it is permissible that the pressing roller rolls the wire rod having a cross-sectional round shape into a belt-shaped wire rod. Then, the ring-shaped wire rod is formed by winding in a state where the width face of that belt-shaped wire rod is oriented in the direction of the winding axis.

**[0039]** With the wire rod- forming machine of ~~Claim 9~~, since a relaxing portion of the belt-shaped wire rod is provided between the feeding roller and the pressing roller, it is possible to absorb the difference in feeding speed between the feeding roller and the pressing roller. In addition, the degree of relaxation of the belt-shaped wire rod is detected with touch sensors. By regulating the rotation number of the pressing rollers based on the detection signals of these touch sensors, that degree of relaxation can be maintained constant. In this way, it is possible to stably feed the belt-shaped wire rod.

**[0040]** With the wire rod- forming machine in ~~Claim 10~~, since the curvature of the portion near both extremities of the wire rod that constitutes the ring was enlarged by operating the translation tool installed on the forming means, it ~~the curvature~~ can be brought close to a true circle, when the ring is mounted onto the companion part and deformed by diameter compression.